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A SPARK PLATER FOR SAW TEETH

A. V. Chugreyev, Chief Engineer,
Northern State Timber and Fish Trust

/Diagram and key are appended/

Good condition of cutting equipment is of the utmost importance to the regular operation of timber-cutting and milling enterprises. Frame saws ordinarily have to be sharpened every 2 hours. The time loss amounts to 75-90 minutes per shift.

Electric-spark plating of saw-tooth edges with a film of hard alloy has proved highly effective in increasing the durability of the saw. Data from the Central Design Bureau of the Ministry of Timber and Paper Industry USSR indicates that spark-plated saws are 2.5 to 10 times as durable as ordinary saws.

The EI-1 portable electric-spark plater, which is made by our industry [it is not clear whether the author means Soviet industry or some manufacturing branch of the trust for which he is chief engineer], was used successfully during 1949 by the Umbiski Industrial Timber Combine of the Main Administration of Western Fish-Packing Materials and by the Murmansk Millwork Plant.

The unit will operate on an alternating or direct-current circuit of 110-127 volts.

There are two rheostats in the circuit, which regulate the current, and four condensers of various capacities. Condensers are switched in as required by the heaviness of the plating operation. One 4-microfarad condenser remains in the circuit at all times.

Before spark plating, the saw edge should be ground on a conventional machine, and thoroughly cleaned of oil and rust.

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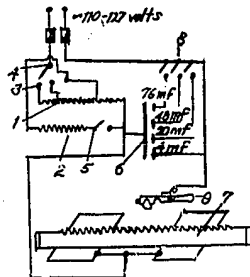
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The electrode is made of Pobedit hard alloy, which deposits itself on the lateral and front faces of the saw teeth.

The machine can be operated by a single worker of 4th-class training. Plating of one saw requires 7-8 minutes.

Spark-plated saws can operate a full 8-hour shift without any signs of wear.

Wide use of electric-spark plating of cutting equipment in enterprises of the Ministry of Fish Industry USSR will save the national economy hundreds of thousands of rubles yearly.



KEY TO DIAGRAM OF EI-1 SPARK PLATER

1. Rheostat
2. Rheostat
3. Contact
4. Switch
5. Fork switch for closing feeder circuit from rheostat
6. Block of condensers
7. Electrode (in this case, the saw itself)
8. Switch for three sections of the condenser block
9. Vibrator

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